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Awang, Darren

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# **PebblePAD: Big Splashes or Mini Ripples? Reflections on Electronic Portfolio Usage on a Blended Learning Course.**

**Darren Awang**

**Coventry University**

**Coventry**

**UK**

## **Abstract**

This paper provides a personal reflection on the introduction of an electronic portfolio (e-portfolio) into a new blended learning assistive technology (AT) course in the UK. The reflection is based upon a preliminary module evaluation of a group of postgraduate mature students from health, social care and charity backgrounds.

Within the last few years there appears to have been a surge in e-portfolio usage as an educational tool, for example, within engineering settings, medical schools and nursing education. Health and social care professional education in the UK now places a strong emphasis on reflective practice. Given these developments, an opportunity arose to integrate reflective spaces into each AT module using the university's e-portfolio tool, PebblePAD.

I will review some of the key drivers promoting the use e-portfolios within the wider educational context alongside local examples. However, the main focus of the reflection will be on describing the rationale for using an e-portfolio within the AT course and how student reflections and e-portfolio usage were embedded within the introductory module.

In the final module session, five students completed an in-depth module evaluation of their reflective experiences. Qualitative responses were collated and analysed to identify prominent themes. Evidence from students' evaluations are also examined in conjunction with selected literature in relation to assessing the impact of integrating formative reflective tasks with the e-portfolio tool.

Key learning points are explored particularly in relation to offering students choices in reflective tools available and the need to carefully consider the use of e-portfolios with reflective tasks as part of summative or formative assessment. It is anticipated that these reflections will stimulate debate and the concluding critical question checklist will be helpful for other educators that are considering the use of an e-portfolio to support the reflective process within their teaching and learning approach.

## **Keywords**

E-portfolio  
Evaluation  
Assistive technology  
Choice  
Critical reflection

## ***Introduction***

This paper provides a personal reflection on the introduction of an electronic portfolio (e-portfolio) into a new blended learning assistive technology course in the UK. The reflection is based upon a preliminary module evaluation of a group of mature students from health, social care and charity backgrounds. This paper will offer useful personal insights to tutors who are considering using e-portfolios within their programmes of study to enhance the reflective process.

Within the reflection I will discuss some of the key drivers promoting the use e-portfolios in education, however, the main focus of the reflection will be on describing the rationale for using an e-portfolio within the course and how student reflections and e-portfolio usage were embedded within the introductory module. Evidence from students' evaluations will be examined in conjunction with selected literature in relation to assessing the impact of integrating formative reflective tasks with the e-portfolio tool.

Key learning points are discussed particularly in relation to offering students choices in reflective tools available and the need to carefully consider the use of e-portfolios with reflective tasks as part of summative or formative assessment. It is anticipated that these reflections will stimulate debate and the concluding critical question checklist will be helpful for other educators that are considering the use of an e-portfolio to support reflection and learning within their teaching and learning approach.

## ***The context of e-portfolio development***

Within the last few years there appears to have been a surge in e-portfolio usage across many sectors. Developments within education are moving rapidly to fulfil political expectations [for an overview of the UKs policy framework see Beetham (2005) Appendix 1].

In March 2007, Becta, the UK government's lead agency for Information and Communication Technology (ICT) in education, produced a report aimed at policymakers highlighting the potential impact of e-portfolios on learning and teaching across primary, secondary, further education, higher education and adult and community learning. Findings from the eight case studies identified that although institutions may have different primary purposes the potential for e-portfolios to support learning included:

- Recording and storing evidence and resources for learning
- Reflecting on particular items or on a bank of evidence over time
- Giving and receiving feedback
- Collaborating with others
- Selecting evidence for presentation
- Communicating learning outcomes and personal identities to a range of audiences

Other strategic partners such as the Joint Information Systems Committee (JISC), which manages research and innovation programmes in the use of ICT in teaching, lifelong learning and research, have funded a large number of projects relating to the use of e-portfolios and personal development planning (PDP). These have primarily focused on the three areas of presentation (e.g. for a job application, appraisal or assessment), transition (when learners move between institutions and sectors) and learning (personal and reflective over time in education, training and employment).

The growing profile of e-portfolio usage within Europe is also being promoted by consortia such as the European Institute for E-Learning online community (ElfEL) whose aim to support the development of a 'learning society' through innovative and reflective practice using information and learning technologies. Central to this aim is the use e-portfolios and the possibilities they can provide. ElfEL has set up the Europortfolio consortium 'to establish a place for ePortfolio leadership in Europe and international cooperation' (Ravet 2007). ElfEL has been running a series of local and international conferences specifically focused on e-portfolios since 2003 that have highlighted a rapidly emerging evidence base and a wide range of applications.

## ***E-portfolio usage within health and social care contexts***

Examples from the Association for Medical Education in Europe conference proceedings have shown that e-portfolios are being used successfully in medical schools (Beggs et al 2007, Girardot and Dupuis 2007).

Work done by Ramey and Hay (2003) highlights the introduction of e-portfolios into the curriculum within nursing education programmes in North America. Ingram (2006) has also reported on the integration of e-portfolio systems with undergraduate social work students in the University of Dundee.

The role of eportfolios as a means of evidencing CPD activities and auditing competencies is also growing. In the UK the Royal College of Nursing's Learning Zone has used an eportfolio system since 2002 (Cable and Peat 2007). Similarly, in 2007, the Chartered Society of Physiotherapy (CSP) has piloted and recently decided to implement the PebblePAD e-portfolio system for its members (PebblePAD 2008, CSP 2007).

It would appear that the emergence of the e-portfolio is creating a shift in teaching methods and subsequent methods of evidencing professional competencies post-qualification for regulatory bodies in these areas.

## ***What are e-portfolios?***

As projects continue to generate evidence a clearer understanding of what e-portfolios actually are is beginning to emerge. Although there is a degree of diversity and debate around a consensual definition of what an e-portfolio is, a well-considered and thorough definition by Sutherland (2007) is:

*A system which allows users, in any of their learning identities, to selectively record any abilities, events, plans or thoughts that are personally significant; it allows these records to be linked, augmented or evidenced by other data sources and allows the user to integrate institutional data with their personal data. It facilitates self-awareness, promotes reflection, supports enrichment through commentary and feedback from the recipients of shared assets. It grows, develops and matures as the user accesses it, without constraint, over time. It provides tools for aggregating assets in multiple forms; for telling myriad stories to diverse audiences and ensures absolute user-control over what is shared, with whom, for what purpose and for how long. It is a personal repository; a personal journal; a feedback and collaboration system; and a digital theatre - where the audience is by invitation only.*

## ***Assistive technology course development at Coventry University***

The Postgraduate Certificate in the Effective Use of Assistive Technologies was developed as part of a new University initiative the *Health Design and Technology Institute* (HDTI). The HDTI aims to foster business links, collaborative projects and applied research with regional small and medium-sized enterprises. Nine courses relating to assistive technologies, health and social care lifestyle and management and product and communication design were developed in 2007 to underpin HDTI activities. The Faculty of Health and Life Sciences (HLS), the School of Art and Design and the Faculty of Engineering and Computing (FEC) devised shared curricula thereby bringing together a range of expertise from across the University to deliver the courses.

The Postgraduate Certificate in the Effective Use of Assistive Technologies consists of four modules, three delivered by HLS under the Department of Occupational Therapy (OT) and one by FEC. The course is targeted primarily at individuals with an interest in AT from backgrounds in health, social care, charity, education, disability, design and retail.

Students are able to examine the effectiveness of current AT initiatives and developments with a view to proposing, implementing, managing and evaluating change to enhance the lives of end users and improve the efficiency of the products used and the systems/processes adopted. A strong reflective element is embedded using both formative and summative assessments to encourage students to review and critique current AT initiatives and wider implications with reference to their own particular experiences. This element mirrors the Department's vision of developing reflective practitioners who are able to articulate, critique and action what they have learnt from their personal and professional experiences (Tate and Sills, 2004).

## ***Assistive technology and the wider perspective***

In January 2008 seven students enrolled on the course and began the first module *Assistive technology and the wider perspective*. The module uses a blended learning approach whereby students attend university one day every two weeks for twelve weeks. Online 'e-tivities' were developed using the 'Wimba Create' course authoring tool *CourseGenie* for each alternate week enabling students to consolidate learning, engage in discussion, reflect on learning and identify action points. The focus is on the experience of living with a disability and the role of AT in enablement. The assignment requires students to critically reflect on their own experiences of engaging with AT at an organisational level and on the change management processes adopted.

## **Rationale for the use of reflection and use of PebblePAD as a reflective tool**

As critical reflection forms part of the assessment it was necessary to embed opportunities to develop reflective skills through reflective tasks. As previously identified, reflective practice provides an opportunity to evaluate the degree of personal and professional learning that has occurred. However, the process of engaging students in reflection can be difficult to achieve (Maiden and Kinsey 2006, Orsini-Jones 2006).

It was identified that students would need to be able to express and store the reflections they produced and tools to achieve this needed to be considered at the course development stage. Given the University's adoption of the e-portfolio system, PebblePAD, this was a natural choice to consider.

## **PebblePAD at Coventry University**

PebblePAD is a flexible e-portfolio system that has been developed jointly by *Pebble Learning* and the University of Wolverhampton. According to Sumner (2006) although originally intended to support Personal Development Planning (PDP) it can also be used for supporting teaching and learning, continuing professional development and managing, sharing and presenting personal information. Entries in a variety of media formats (known as 'assets') created within the system can be shared or kept private by the owner.

PebblePAD was introduced in 2005/6 to complement CUOnline – the University's Blackboard virtual learning environment (VLE). Several tutors have used PebblePAD in a variety of modules. For example, Mary Deane (Centre for Academic Writing) used PebblePAD extensively within an introductory academic writing module. Students could upload workshop material into their webfolios, experiment within Webfolio space and create homepages around writing skills for presentation to future employers. All coursework was showcased within the Webfolio. Mary was given a University Teaching Excellence Award in July 2008 for this work (Deane personal communication, 2008).

In addition, Marina Orsini-Jones (2006) used an adapted European Language Portfolio (ELP) with students to record progress and achievement. She compared student experiences of using a Word version of the ELP with PebblePAD. Four positive aspects were identified supporting e-portfolio usage - pride in the work produced, ownership, easy integration of audio-files and durability. Issues surrounding this pilot included the time required for staff and student software training and tackling 'a certain resistance' amongst first year students to engage in metareflection.

## **Induction**

Students started the course in January 2008 although a separate bespoke induction/enrolment day was arranged a month beforehand. Within the induction four activities were included:

- Introduction to CUOnline
- Study Skills
- Introduction to reflective practice
- Introduction to the eportfolio

The study skills session used the recently developed Occupational Therapy Study Skills Programme Web (Ward personal communication, 2008). Contained within CUOnline the Web contains a series of self-directed tutorials on, for example, academic writing skills, and referencing. Significantly the first area centres examines learning and requires students to identify their own learning style using a VARK exercise.

This exercise gives students the opportunity to begin to identify *how* they learn. The next part of the process was to introduce reflective practice encouraging students to begin the process of understanding *what* they have learnt. A session was devised on reflective practice that encouraged students to think about the ways in which they reflect on personal and workplace learning and the formal and informal strategies adopted. Gibbs' reflective cycle was used as a model for reflection

Although a demonstration of PebblePAD was arranged due to technical problems CUOnline was unavailable and this was rescheduled. This mirrors the experiences of Maiden and Kinsey (2006) where access and technical problems adversely affected initial impressions of postgraduate students use of e-portfolios. Instead students were given two information guides a standard university tool introduction to personal development planning and PebblePAD and also any easy to use guide to PebblePAD that outlined how to gain access via CUOnline and produce and share a structured reflective asset.

Students were advised to use PebblePAD to create and store reflections but alternative reflective tools such as paper-based diaries and journals were discussed by the students during induction and these were considered to be acceptable. It was clarified that, at times, students would be expected to share PebblePAD assets with the module tutors. Apart from this proviso, students could determine the extent of their PebblePAD usage. Experiences from the OT undergraduate degree programme and Departmental applied research with dyslexic students (Awang et al 2006) had shown that a range of reflective tools needed to be considered that took into account personal learning styles to facilitate the reflective process. A one size fits all approach would not work. The pedagogic aim was to develop reflective skills and the tools on offer needed to support this process and not determine it (see Cotterill et al 2005).

Over the holiday period students were encouraged to access Study Skills tutorials and share a reflective asset with tutors. The intention was not only to encourage students to use the facilities but also to highlight off-campus technical problems requiring resolution prior to the start of the course- especially important given the blended approach. Two students completed this optional task reporting back positively about their PebblePAD experiences during the first taught session.

## **Reflective e-tivities**

Primarily, students engagement in reflection was directed using five graded E-tivities, each designed to consolidate knowledge and facilitate deeper exploration through task-based questions. Often interactive quizzes, multimedia clips or web resources were included. The initial E-tivity facilitated group formation by asking students to share general personal information and create a single sheet A4 reflection in PebblePAD using a structured journal entry. Example areas for reflection were provided.

Subsequent E-tivities explored key module content areas each ending in a reflective task focussing on issues raised during University sessions and online discussions. It was suggested that PebblePAD should be used to store these reflections and action points. Students could share any reflections publicly within CUOnline discussions. Progress on E-tivities was discussed at the start of each University-based session.

After 10 weeks students were asked to share a reflective asset regarding their assignment plan with their personal tutor so that formative assignment feedback could be given. Three successfully shared reflective asset, two others emailed the information and two did not complete the task by the deadline.

At the next University session two students expressed difficulties with navigating PebblePAD and reported technical problems such as reflections being lost if the system had a glitch thus losing their work. Other students reported that they preferred using paper-based diaries to record reflections. It

was for these reasons plus the fact that the module was brand new that a more thorough evaluation of the issues related to reflective tasks was undertaken as part of the module evaluation.

## **Evaluation**

In the final module session general module issues were highlighted using a group exercise. The evaluation was introduced and students were asked to complete it and return it by post. The evaluation comprised four sections on:

- University-based sessions
- E-tivities
- PebblePAD and reflective practice (nine questions)
- Assignment guidance

Five students completed the module evaluation. Responses were collated and analysed to identify prominent themes.

## **Reflections on findings**

Overall students responded well to each element evaluation. For the purposes of this paper four main areas are discussed that relate to experiences on engaging with reflection, experiences of using PebblePAD to support the reflective process, the value of reflective anchor points within the module and the importance in offering choice in the use of reflective tools.

## **Reflective experiences**

Initial discussions with students indicated that this was their first opportunity to use an e-portfolio. Experiences of formal reflection varied between respondents. Two students identified that they had not engaged in formalised reflection. One stated that reflection, whether conscious or not took place in normal work situations on a daily basis when in a management role. Two other students identified formal methods of reflection: one had made use of a learning log during another degree course; another had a previous health professional qualification that included formal reflective activities but now tended to do this in a less formal way through discussions with work colleagues.

In terms of their thoughts on the reflective tasks most experiences were positive. For example, one student found the E-tivities made it easier to make notes about how she felt about each session. One interesting point was raised by another student:

*I found the emphasis on writing up reflections using PebblePAD difficult as I am not used to committing my thoughts to 'paper' [in the VLE]. I often change my thinking over days and weeks and I was unsure about putting down what I thought during this process.*

Levels of participation varied with some students opting to engage more with certain tasks e.g. if it was perceived to be easier or more interesting. One identified that access problems to CUOnline off-campus had initially affected her engagement but once these had been 'ironed out' she engaged more fully whilst conversely another had started off well but then engagement tailed off.

A key feature of the E-tivities and the built-in reflective tasks was to prepare students for their assignment. Comments from students were mixed. Three students expressed that links to the reflective tasks were evident. One stated:

*My reflections based on the lecture and E-tivities has built into my assignment but the role of the written work on PebblePAD has been limited.*

A consideration is the variability of experiences of formal reflection for students and the need to achieve a level of engagement that all will find satisfactory including those with well established reflective strategies and mechanisms. The links between reflection and assignment development was evident for most students. These findings tended to support the anticipated need to continue with the content of the current induction programme and grading of reflective activities.

## Perceptions of PebblePAD

Students' views on the usefulness of PebblePAD were positive. It appeared that those willing to engage with the software initially found it helpful. One student found that it did not suit his reflective style. Student comments included:

*When I understood it, it was good to do the reflection of the session  
Found it useful and easy to use however not always easy to access from home where I did most of my work - sometimes time consuming to actually get onto [CUOnline] site.  
I felt it was useful and well set up but did not suit my style of reflection and learning*

In terms of improving their reflective experiences students identified issues around further training in using PebblePAD and improving technical problems when reflections were lost due to system glitches.

Other difficulties expressed included finding the link to the e-portfolio within the VLE and some problems using the interface initially. Comments included:

*[Difficult] to get started and some time to find it. Difficult to put things [reflections] down  
Some initial confusion in negotiating the software but I felt it was straightforward and well set up  
Just getting around it*

Most students had made use of the university and 'quick' PebblePAD guides at various points:

*Yes after I had initial problems finding my way around the software – it was helpful.  
Only after trying several times. I personally should have learned how to use it correctly first*

Despite the identified difficulties all students felt positive about the potential of PebblePAD as a reflective tool. Comments from students included:

*You have the chance to use new skills  
Useful storage facility for thoughts  
I think I would have used it as my personal learning log – if I could have used it easier  
Like the idea but have not really got into the practice – don't think this is a fault of system more my particular circumstances*

## Anchor points for reflection

In terms of the strategies adopted to embed reflection and the use of PebblePAD it appeared that all the relevant elements to initiate the course had been taken into account particularly within the induction programme. Ingram's (2006) evaluation of student and staff views on the introduction of e-portfolios with level 1 undergraduate social work students identified that IT induction needed to be closely aligned to the task. His students did not engage fully with the e-portfolio until four months into the course. This engagement was prompted by a summative assessment. In analysing the results Ingram identified that 78% of students would have used their e-portfolios less often if there had not been a compulsory assignment. Ingram suggests the use of 'anchor points' where feedback can be given to students will give students confidence to move away from anxieties about how to use e-portfolios to a point where they are actually starting to use them.

Within this AT module even though a summatively assessed PebblePAD outcome was not adopted, anchor points and formative tasks were built in at several points to promote its use. These anchors were valuable for both students and tutors in checking on engagement with E-tivities and reflections, highlighting any access issues and giving opportunities to check on assignment ideas, resource issues and progress. Where VLE problems existed those students that were affected had E-tivities directly emailed to them to ensure that they could participate in the tasks (even if online discussions and PebblePAD could not be accessed).

## Promoting student choice

One issue that deserves further exploration is around choices in what reflective tools students can use. It was unclear from Ingram (2006) and Maiden and Kinsey what alternatives to e-portfolios (if



any) students were offered. There are several reasons why the sole use of an e-portfolio to support and evidence reflections should be considered carefully.

Firstly, access to the VLE for some students can be an issue. As identified some AT students reported difficulties in gaining access to the University's VLE from their workplace stations (particularly those working in NHS or local authority settings). This was mainly as a result of firewall and PC specification problems - an issue highlighted particularly with online distance learning courses (Donaldson 2004) but which also impacts on blended approaches. Ingram (2006) notes that two of his students could not access their e-portfolios from home (reasons not stated) with others having restricted access to home computers due to family circumstances. Similar issues have also been highlighted by Maiden and Kinsey.

Secondly, problems with access could potentially be exacerbated if the use of the e-portfolio is an assessed component. If the pedagogic demonstration of learning and reflection are the key learning outcomes for students, tutors should ask themselves whether the skills of using an eportfolio are primary or secondary to this.

This leads on to the third point that evidence for this evaluation identifies that some postgraduate students (and indeed undergraduates) may already have established reflective styles, methods and strategies. Imposing an e-portfolio tool without consideration of alternative tools or regard for existing learning and reflective preferences may prove to be counterproductive with intended outcomes. An alternative could be to utilise e-portfolios alongside, for example, paper-based systems initially, and as the course progresses to phase in mandatory e-portfolios elements (e.g. presentation of evidence) *if* the demonstration of e-portfolio usage is linked to learning outcomes.

A fourth area relates to diversity of student needs and learning styles and whether e-portfolios alone are flexible enough to meet individual requirements or whether other adjustments (under the Disability Discrimination Act 2005) have been fully considered. Again, this consideration will be particularly important where the demonstration of e-portfolio engagement forms part of a summative assessment.

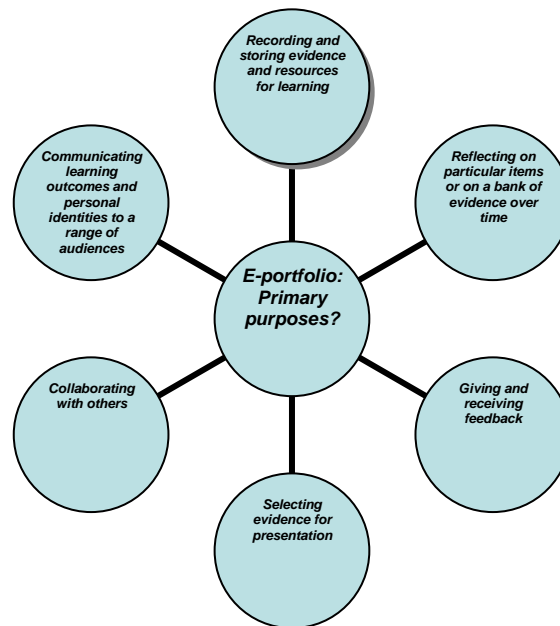
A final point comes down to the fact that mature postgraduate learners should be offered informed choices in the reflective tools available to them. I feel that our students were aware of the choices on offer and they were all keen to try PebblePAD initially. Some of them continued to engage with the system but others, for their own reasons, did not.

## **Conclusions**

Although it is too early to fully appreciate the role of an e-portfolio in this one year part-time course it was evident that there was potential for an e-portfolio to support the reflective process. Nonetheless, alternatives to e-portfolio usage need to be considered. By identifying at the outset what students perceive their learning and reflective styles to be, alternative methods and mechanisms to engage in reflective activities can be discussed so that students can make informed choices regarding a medium that matches their needs. In addition, such alternatives or adjustments should also be considered at the outset to pre-empt any access/technical problems so that students are not excluded from participating. This could prove particularly problematic if summative assessments rely heavily on the demonstration of e-portfolio engagement.

In conclusion, as a relative novice to the concept and use of e-portfolios, I would advise other tutors who are new to this area to consider the following points:

Review the potential primary purpose(s) of e-portfolios with reference to the outcomes you hope to achieve in your module or course. In order to facilitate this process, consider the diagram below that is based on findings by Becta (2007).



**Figure 1:** Identifying primary purposes of e-portfolios

In addition, consider a reasoning pathway for using eportfolio to support reflection using the following critical questions.

- Why are you using e-portfolios? Match your purpose against primary purposes above.
- Does this link into your module or course outcomes explicitly?
- If using e-portfolios to support reflection, is your primary purpose to
  1. Encourage students to reflect
  2. Demonstrate the skills to use an e-portfolio effectively
  3. Both

If 1, then is it mandatory that students use an e-portfolio exclusively. Why?

If 2 or 3, then assessment of e-portfolio usage must be an explicit outcome

Regardless of the above:

- Have you considered the learning styles of your students?
- Is your e-portfolio flexible enough to incorporate these?
- Have you considered whether your students already have established reflective styles, methods and mechanisms?
- How will the e-portfolio fit in with these?
- When will you need to consider alternatives to e-portfolios?
- Are your summative assessment outcomes flexible enough to take into account relevant adjustments or alternatives to e-portfolios?

From this evaluation of postgraduate experiences offering choices in tools to support reflection did not necessarily mean that students would not engage with a new e-portfolio system. On the contrary, all students were willing to use PebblePAD to varying degrees, at the very least as one student put it, it gave her the chance to “learn about some very clever software.”

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